Digital Slow Shutter

DSS

Weatherproof IR
Day & Night Color Camera



COLOR VIDEO CAMERA with DAY & NIGHT and IR LEDs

OWNER'S MANUAL





User Information



CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN



CAUTION! TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Explanation of two Symbols



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's

enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance-(servicing) instructions in the

literature accompanying the appliance.

THE GRAPHIC SYMBOLS WITH SUPPLEMENTAL MARKING ARE ON THE BOTTOM OF THE SYSTEM.

"WARNING-TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE"

INFORMATION

This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

DNINGAW

The manufacturer could void the user's authority to operate the equipment.

CAUTION - To prevent electric shock and risk in fire hazards:

Do NOT use power sources except for that specified.

This installation should be made by a qualified service person and should abide to all local codes.

Troubleshooting

If there is no picture on the monitor screen,

make sure all the cables are properly connected.

make sure the monitor is properly adjusted.

If the picture on the monitor screen is not clear, clean the lens. adjust the lens foous.

If there is a video noise or other unknown problems, stop using the camera and call your local dealer.

DO NOT DISASSEMBLE THE CAMERA

IF ANY DEFECTIVE CAMERA HAS BEEN OPENED BEFORE IT ARRIVES TO AUTHORIZED RMA OFFICE, THE DEFECTIVE CAMERA MAY NOT BE REPAIRED UNDER IT'S WARRANTY SERVICE.



Weatherproof Day&Night Color Camera

COLOR VIDEO ZOOM CAMERA SERIES with DAY & NIGHT and IR LEDS

300 x POWER ZOOM COLOR VIDEO CAMERA



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1. Precautions

Do not install the camera in extreme temperature conditions.

Do use the camera under conditions where temperatures are within -10°C to 50°C.

Especially be careful for ventilation under high temperature.

- Do not Install the camera under unstable lighting conditions.
 Severe lighting change or flicker can cause the camera to work improperly.
- Never use the camera close to a gas or oil isak.
 It can cause malfunctions to occur.
- Do not disassemble the camera.

 There are no user-serviceable parts inside it.
- Do not drop the camera or subject them to physical shocks.
 It can cause malfunctions to occur.
- Never keep the camera face to strong light directly.
 It can damage CCD.
- Note

When this camera is installed near equipment, like a wireless communication device that emits a strong electro magnetic field, some irregularity such as noise on the monitor screen may happen.

2. Composition

1. Weather Proof Camera



2. Sunvisor



3. Bracket Ass'y



4. Owner's Manual



5. AC Adaptor



*DC 12V Input Model

3. Features

1. Day & Night Function

It automatically judges whether it is day or night. Color pictures are provided during the day, black and white pictures at night. A separate infrared LED is unnecessary since the built-in IR LED is used when the IR Cut Filter is removed at night.

2. Built-in Power Zoom Lens (optical 30x)

Subject can be magnified up to max 300 times with the 30x optical zoom and 10x digital zoom.

3. IR Illuminator

Two IR illuminators enable you to see any object under total darkness. Each of them is composed by 63 IR LEDs (Total 126 III LEDs).

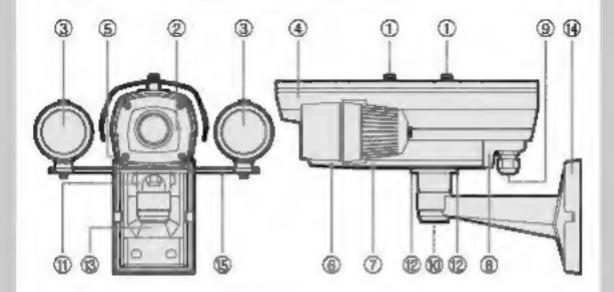
4. High Resolution and High-Definition picture

Provides high-definition picture 480 TV line horizontal resolution, with 1/4 inch SONY Super HAD CCO.

5. Camera Control

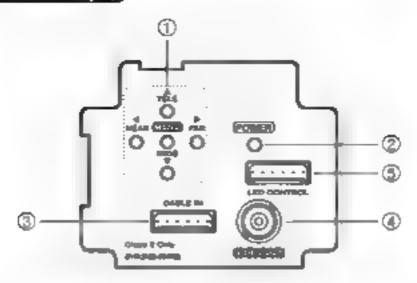
RS-485 (PELCO "D") Control

4. Name and Function of Each Parts



- Tixing Bolt for Survisor You can unfasten the bolt in order to fix mounting bracket above.
- Photo Sensor
- ③ IR Illuminator (Infrared LED) Automatically controlled according to light condition.
- Sunvisor
 To reduce direct sunlight and protect the camera unit from rain or snow outdoor.
- 6 Fixed Screws (front- 4EA & rear- 4EA) Remove the front & rear body from the main body unscrews the four(total eight) fixed screws.
- ® Front Body / ® Main Body / ® Rear Body
- Compression Gland
 Used to connecting the IR illuminator cables to the rear body panel.
- Mounting Bracket Fixing Bolt Fix the camera main body to bracket by wrench bolt.
- 1 Base Adapter / 2 Base Adapter Fixing Bolt
- ® Wall Mount Bracket / → Bracket Supporter
- (5) IR Illuminator Supporter

. Main Body 🗢 : Rear Panel



① Function Setup Button

Functions can be setup using 5 buttons on the camera's rear panel.



- MENU Buttons: Used to access menumode. Also used to escape menu mode.
- TELE/WIDE Bullon: Used to choose the desired menu item. It also moves the cursor up or down in the menu screen.
- NEAR/FAR Buttons: Used to change the parameter of the selected menu item.

It also moves the cursor the left in right in the menu screen.

- ② Power LED The LED turns on when power III supplied.
- ③ Cable (Power In / Video Out / Camera Control) Connector
- ④ Video Out Jack

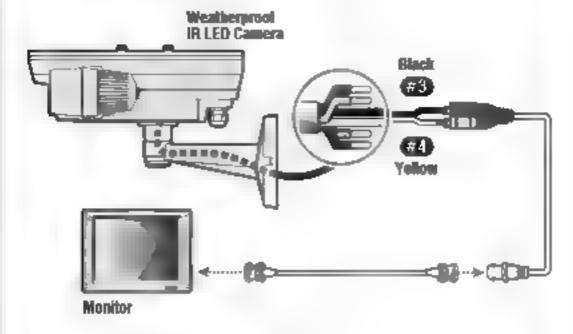
This camera system includes a service connector that outputs extra camera video signal. Use it at the installation site to set up the field of view and focus the camera.

(5) Illuminator Control Connector (Refer to page 14)

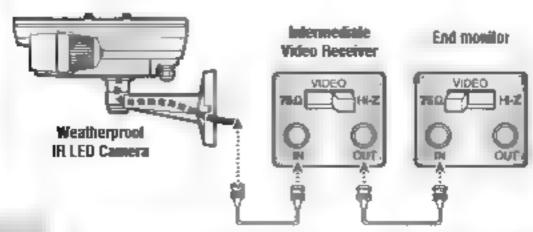


1. Connecting to Monitor

- Cable the VIDEO out to the monitor video in jack.



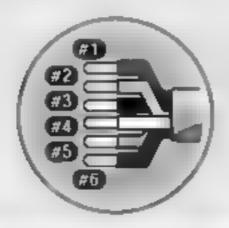
- As the connecting method varies with the instruments, refer to the manual supplied with the instrument.
- · Connect the cable after power ill turned off.
- Set the 75Ω/ Hi-Z selection switch as shown below if you have an intermediate device.



2. Connecting to Power Supply

. DC 12V Power 🦃

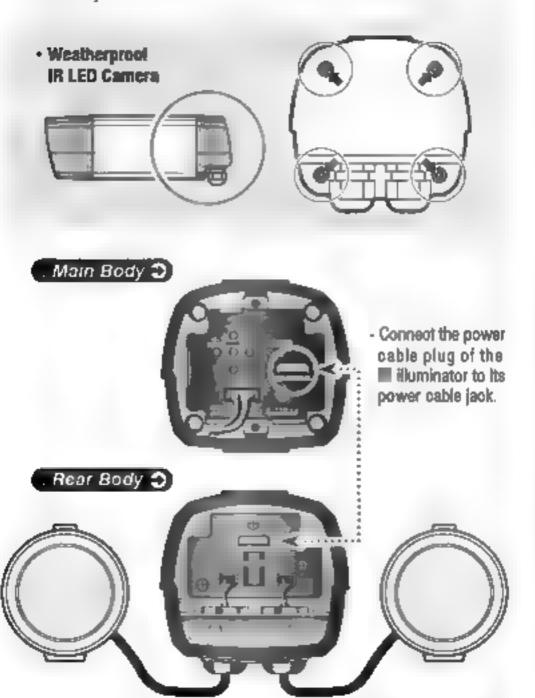
- The wire is polarized.
- Use DC 12V === power source.
- Note: Make sure you are using olny the supplied AC adapter.



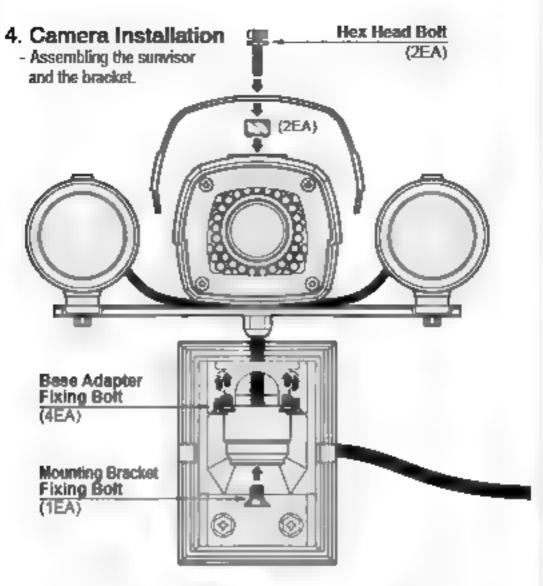
No.	Line Color	Function	Remark	
#1	DAR	DC12V	IIII 12V / 2.5A	
#2	ORANGE	GNO	GND	
#3	BLACK	GNB(VIOEO)	GND	
#4	YELLOW	VIDEO OUT	1.0Vp-p Composite	
#5	GREEN	RS-485 (+)		
#6 BROWN		RS-485 (-)	-	

3. Connecting to IR Illuminator

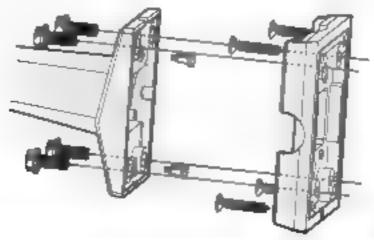
 Unscrew the four fixed screws to remove the rear body from the main body.



 Connect the control cable plug of the IR illuminator to its control jack.



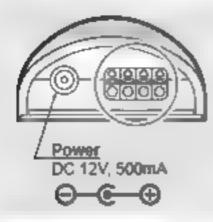
- Assembling the bracket supporter



B. Remote Controller Operation

The remote controller is optional item.

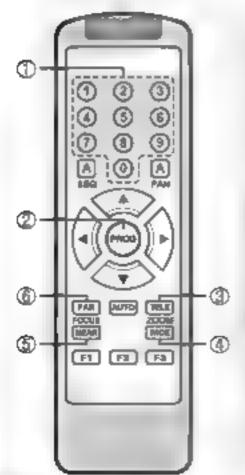
■ Receiver





- White Terminal : (3)
- Black Terminal : ⊖

■ Remote Control

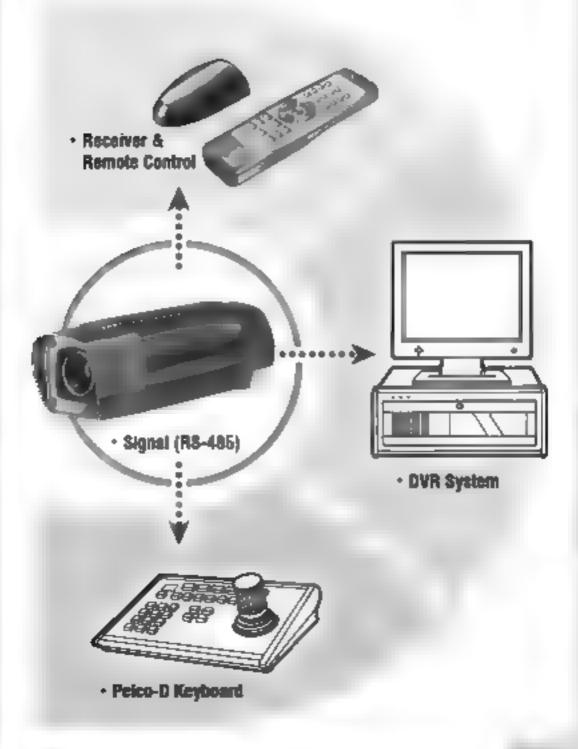


① Camera Selection

- After camera connects with receiver, firstly check camera I D.
- Press camera I D. number(1~39 buttons) on the top of wireless remote controller.
 - DExample: 200M IN
 - *1.0 No.6: Press \$ + < TELE>
 - *1.D. No.15: Press <F1>+ 5 + <TELE>
 - *I.D. No.24: Press <F2> + 4 + <TELE>
 - *I.D. No.34: Press <F3>+ 4 + <TELE>
- Caution: Usually camera LD, number are selected from No.1 to No.39.
 over LD, No.40, you will have a use Brit.
- Initial carnera I.D. number is set up No.0 when it takes out of manufacturer's warehouse.
- 2 Menu (PROE): Shows / Hides Menu.
- 3 (TELE):1
- (WIDE): Moves up and down items.
- (NEAR):
- (FAR): Set data for the selected items.

300x 200T

■ Cable Connection (Pelco-D/ RS-485)



7. On-Screen Display

■ Explanation of the On-Screen Display

The OSD (On Screen Display) III as follows:



"ND": No Display

	FUNCTION	08D	EXPLANATION
1	Focus	ND	Automatic focus mode
		3	Manual focus mode
	Mirror -	ND	No screen inverted
		+	Screen ill inverted to the left or right
		ND	Backlight compensation off
3	Backlight		Backlight compensation mode
		3	Automatic backlight compensation mode

The DSDs of 1, 2, 3, 4, 5, 5, 5, 9, 11 disappear 5 sec later.

"ND": No Display

	FUNCTION	OSD	EXPLANATION
4	White Balance	ND	Automatic color correction mode
		SwB	Special color correction mode
		<u>twB</u>	Indoor mode
		<u>OwB</u>	Outdoor mode
		PwB	Temporary automatic mode
5	Pan / Tilt	ND	No Act Digital Panning / Tilting
		+	Digital Panning / Tilting
	Shutter Speed	ND	Standard shutter speed (NTSC:1/60, PAL:1/50)
6		EL	Flicker correction mode
		x125 ~ x10000	Shutter speed indicator
7	ID	000 ~ 255	Carnera identification number
	Motion Detect	ND	No motion detected
8		MD	Motion detected
9	Initial LOGO	WAIT	Displayed when POWER ON of the carnera is in operation
10	Zone Label	-	Explanation of the scene capture by the camera (max. 10 letters)
11	Zaom	x1 Dx300	Optical zoom: x1 ~ x30 Digital zoom: Dx31 ~ Dx300 * 'D' indicates digital zoom

B. Menu and Operation

■ How Ia Set Up Functions

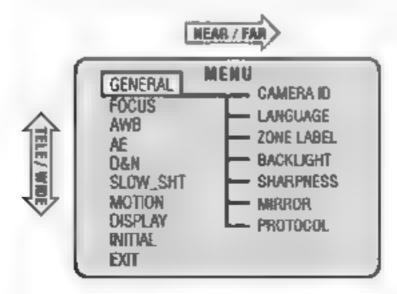
Functions can be setup using 5 buttons on the camera's rear panel.



- ⇒ MENU Key : Shows/Hides Menu
- TELE/WIDE: Moves up and down items
- NEAR/FAR : Set data for the selected item.
- (*) The above keys may be used differently in some functions: "Zone Label"

1. Press the MENU buller.

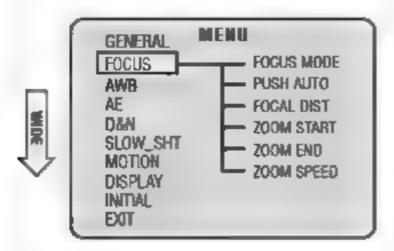
- The Menu consists of the "Main Menu" and "Sub Menu".
- The main menu is displayed where ID camera functions can be selected.
- To the right of each main menu selection, the sub-menu is displayed.



✓ GENERAL

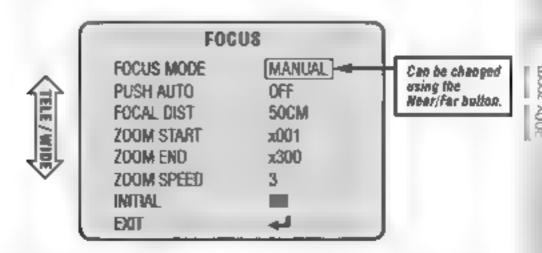
: This blinks to show that this category has been selected.

- It moves up and down the main menu category.
- The sub-menu functions of the main menu category are displayed on the right.



3. Press the NEAR/FAR button.

- It moves to the sub-menu window of the selected main menu.
- The current set state of each sub-menu can be checked.
- Press the TELE/WIDE button to move up and down the sub-menu category and set each category by pressing the NEAR/FAR button.

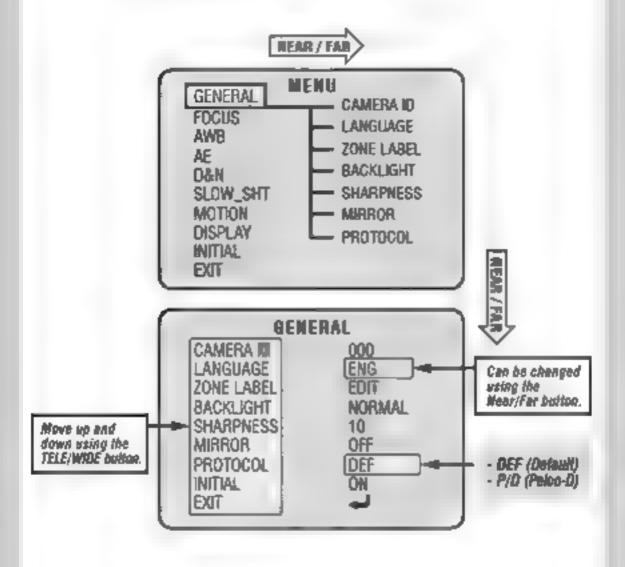


Press the OSD MENU button III the main menu or sub-menu screen to hide the menu.

- It does not apply when the MENU button is used for other uses.
 - : 'Zone Label' setup screen

■ Main Menu- GENERAL

- Sets up the general operation of the camera.
- Press the NEAR/FAR builton to move to the sub-menu.



1. CAMERA ID

- Displays the camera's
- Carnera ID can be specified using numbers from 000 to 255 by using the NEAR/FAR button.

2. LANGUAGE

- Displays the currently set language.
- Language can be set from ENG to KOR and vice versa using the MEAR/FAR button.

3. ZONE LABEL

- Edits and displays the information of camera or explanation on the area of the image being captured at the bottom left of the screen.
- Maximum of 10 letters can be used / edited.
- It is described in detail on page 38.

4. BACKLIGHT

- Use to select BLC mode.
- BLG can be set from NORMAL, C1, C2, L1, L2, U1, U2, D1, D2, R1, R2 and vice versa using the NEAR/FAR button.

5. SHARPNESS

- Adjusts sharpness of outlines.
- Gan be set from 0 to 15.

6. MIRROR

Inverts the screen to the right or left.

7. PROTOCOL

DEF : Default

P/D : Pelco-D

8. INITIAL

Resets the current general settings category to the initial settings.

9. EXIT

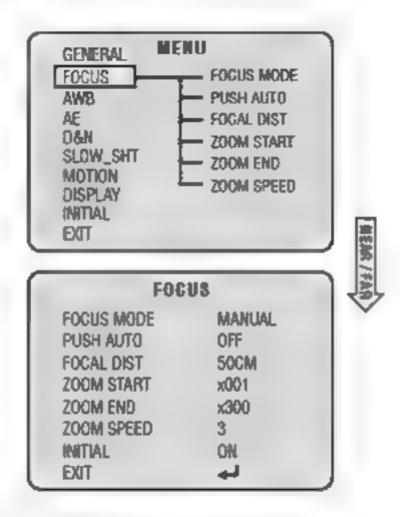
Closes the sub-menu and moves to the main menu.

Caution

Change the data of the sub-menu using the NEAR/FAR button.

■ Main Menu- FOCUS

- Sets carriera zoom and focus.
- Press the NEAR/FAR button to move to the sub-menu.



1. FOCUS MODE

- AUTO: Focuses automatically when the menu including D&N chages.
- MANUAL: User focuses manually.

Note) Automatic focus in manual mode is only possible when the location of the zoom lens has changed or when the "temporary automatic focus" category is selected. Automatic focus is also possible based on external AF command (1 shot AF).

2. PUSH AUTO

- When temporary automatic focus is selected, the carnera focuses automatically when only the NEAR/FAR button is pressed.
- In the Automatic Mode, it will be displayed as "Not Used".

3. FOGAL DIST

Minimum distance the camera can focus.
ex) 10cm: Objects/subjects closer than 10cm cannot be brought into focus.

4. ZOOM START

- Minimum zoom movement.
- Possible from x 001 to x 030

5. ZOOM END

- Maximum zoom movement.
- Possible from x 001 to x 300

6. ZOOM SPEED

- 2 Zoom speed movement, (Start x1 ~ End x30).
 - 1:16 sec.
 - 2:7 sec
 - 3:5 sec

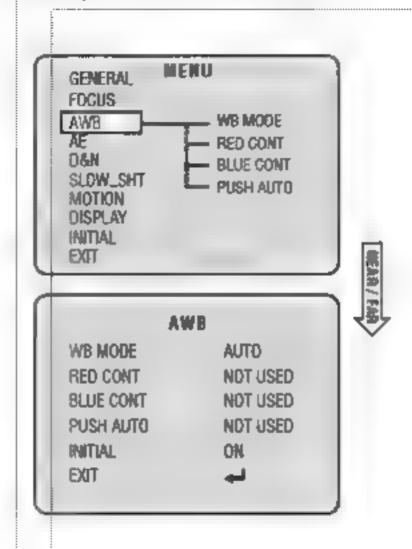
7. INITIAL

Initializes the changed category in focus menu.

8. EXIT

Main Menu- AWB

- Adjusts picture color.
- Press the NEAR/FAR button to move to the sub-menu.



1. AWB

- AUTO : Automatically adjusts color according to the available lighting.
- PUSH AUTO: Golor will be automatically adjusted while the NEAR/FAR button is pressed in the temporary automatic mode.
- OUTDOOR: Set color temperature to \$\infty\$ 5400\(^1\)C.
- INDOOR: Set color temperature to be 3200°K.
- SPECIAL: Color can be corrected when the user increases or decreases "Red Control" or "Blue Control".

2. RED CONT

- Can be changed in special mode only, and R-Gain value is adjusted.
- Can be set from 0 to 255.

3. BLUE CONT.

- Can be changed in special mode only, and B-Gain value is adjusted.
- Can be set from 0 to 255.

4. PUSH AUTO

- Can chage WB Mode to PUSH AUTO.
- Can be Push Auto whenever pushes NEAR/FAR button ('Off' is displayed to 'Push' whenever pushes key)

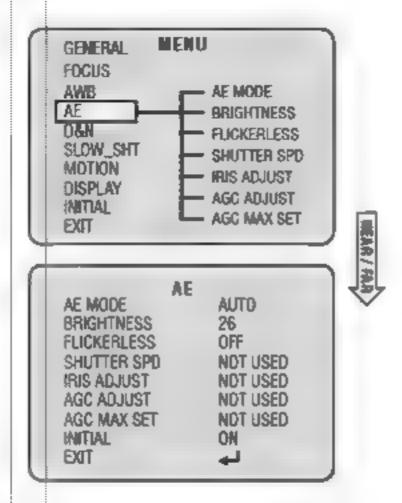
5. INITIAL

Initializes the changed category in AWB menu.

6. EXIT

■ Main Menu- AE

- Adjusts picture brightness.
- Press the NEAR/FAR button to move to the sub-menu.



1. AE MODE

- AUTO : Automatically adjusts brightness according to the available lighting.
- MANUAL : Manually adjusts III brightness.
- AGC MAN : Allows you to adjust gain.
- IRIS MAN : Allows you to adjust iris.
- SHUT MAN: Allows you to adjust the shutter speed.

Note) Carriot adjust when D&N mode(refer to 30 page) is in Auto.

300x zoom

2. BRIGHTMESS

- Brightness can be adjusted from 0 (darld) to 48 (bright).
- Not used white in manual mode.

3. FLICKERLESS

Removes screen flickering caused by discordance of frequency and lighting.

4. SHUTTER SPD

- Can be changed while in manual and shutter manual mode.
- Shutter speed can be changed from standard to 1/10000.
- Standard shutter speed: NTSC- 1/60, PAL- 1/50.

5. IRIS ADJUST

- Adjusts the opening of iris.
- Can be adjusted from 0 (closed) to 255 (opened).
- Change in screen can be recognized only within the certain range.
- Can be adjusted white in manual and gain adjustment mode.

6. AGC ADJUST

- Gain adjustment of image signal.
- Can be adjusted from 0 to 255.
- Can III adjusted white in manual and gain adjustment mode.

7. AGC MAX SET

- Maximum gain value used when gain is automatic.
- Can be adjusted from 0 to 255.

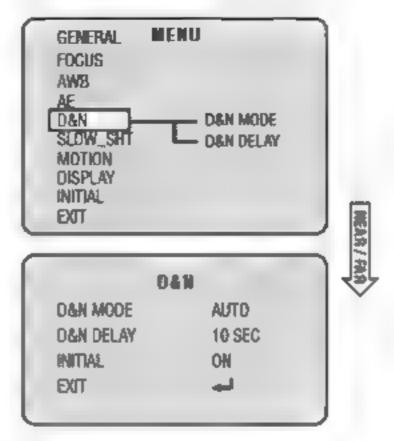
8. INITIAL

Initializes the changed category in exposure menu to the initial settings.

9. EXII

■ Main Menu- D & N

- Determines and operates in mode suitable for day or night.
- Press the NEAR/FAR button to move to the sub-menu.



1. D&N MODE

- AUTO: Fitter operates automatically according to brightness.
- NIGHT: Manual Mode- removes iR cut filter.
- DAY: Manual Mode- does not remove IR cut filter.
- The IR illuminator will be activated when the IR cut filter is removed automatically.

2. D&N DELAY

- Sets conversion time of IR cut fifter while in automatic mode
- Time can be adjusted from 1 to 10 seconds.

3. INITIAL

Initializes the changed category in night Day/Night menu.

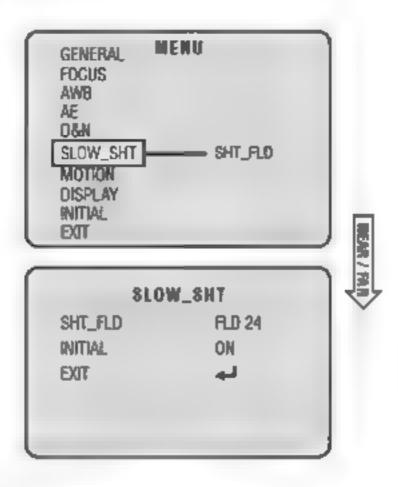
4. EXIT

300x zoom

■ Main Menu- SLOW_SHT

Use under very low light condition for full color surveillance.

Press the NEAR/FAR builton to move to the sub-menu.



1. SLOW_SHT

- Use under very low light condition for full color surveillance.
- OFF: Digital slow shutter function in disabled.
- Can be adjusted from FLD II to FLD 128

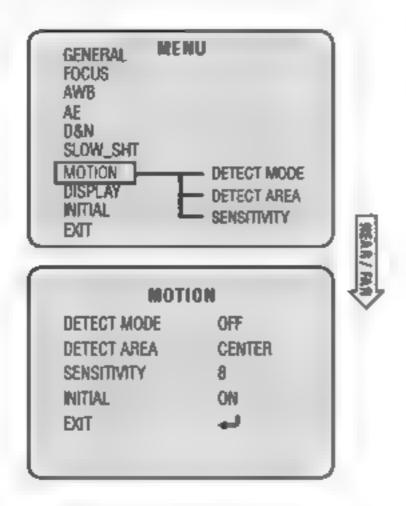
2. INITIAL

Initializes the changed category in digital slow shutter menu.

3. EXIT

Main Menu- MOTION

- When there is movement of the subject in the screen, there will be an alarm, or the user will be informed through communications or "MD" will display on the screen.
- Press the NEAR/FAR button to move to the sub-menu.



1. DETECT MODE

Enables or disables motion detection function.

2. DETECT AREA

- Sets motion detection field.
- Can be set to CENTER, OUT, UPPER and WHOLE.

3. SENSITIVITY

- Sets sensitivity to detect movement.
- Can be set from 1 (low response) to 15 (sensitive).

4. DITTIAL

Initializes the changed category in motion detection menu.

5. EXIT

Closes the sub-menu and moves to the main menu.

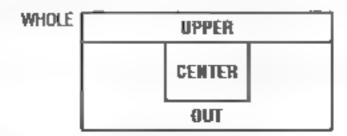
Note) There is a signal every time there is movement by the subject. If motion is detected, MO (Motion Detected) is displayed on the upper left of the screen. This message enables the user to set On-screen display state in the menu.

Caution

- Error can occur in the motion detection function in the following cases.
- When lighting is unsteady.
- (2) When light changes often even though there is no movement of the subject.

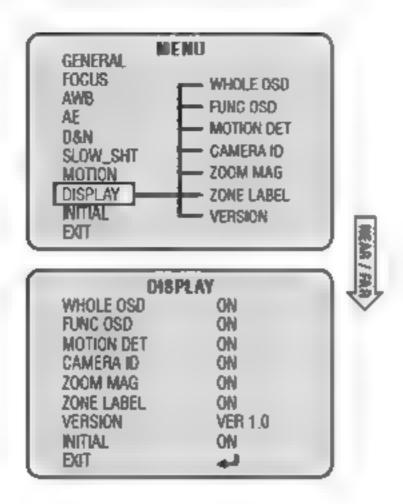
It is recommended that this function should be used after setting the detection sensitivity and detection field after monitoring the environment for an extended time.

Note) The detection field on screen is as follows:



■ Main Menu- DISPLAY

- Specity what to display on the screen.
- Press the NEAR/FAR button to move to the sub-menu.



1. WHOLE OSD

- All on-screen display is "ON" or "OFF".
- Nothing will be displayed if specified as "Hidden" even when other categories are individually set as "ON". (Exception: Initial logo when power is turned on.)

2. FUNC OSD

Images displayed on the upper area of the screen.

Refer to the "On-Screen Display" section- images 1 to 6.

3. MOTION DET

"MD" is displayed on the upper left of the screen when motion is detected.

4. CAMERA ID

Displays ID number on the upper right of the screen.

5. ZOOM MAG

- Displays zoom on lower right of the screen.
- The number in Dx300 shows the magnification, and D represents digital zoom.

6. ZONE LABEL

Displays texts explaining screen area on the lower left of the screen.

7. VERSION

Displays the version information of camera (cannot be changed).

III INITIAL

Initializes the changed category in on-screen display menu.

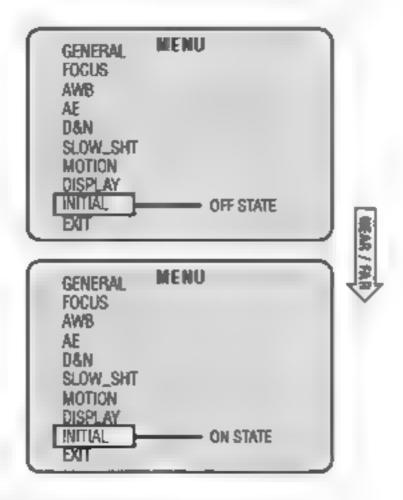
9. EXIT

Closes the sub-menu and moves to the main menu.

Note) Refer to the "On-Screen Display" for details.

Main Menu- INITIAL

- Initializes all current settings.
- No sub-menu.
- Press the NEAR/FAR button to initialize the entire camera settings.
- Note that all settings in the sub-menus will initialized.



OFF STATE: Indicates that settings are not initialized.

STATE: Indicates that camera settings have been initialized.

Caution

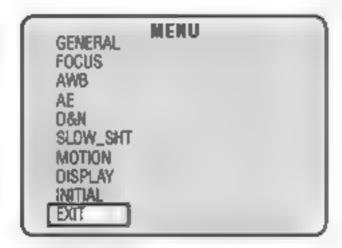
Please use caution when performing this function.

Every setting(even in all sub-menus)will III initialized.

Initialization in sub-menus will initialize each category of the sub-menu only.

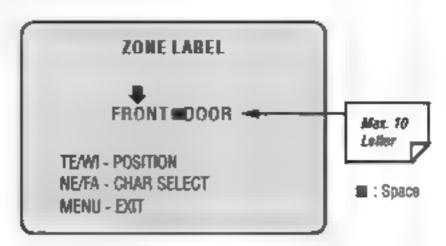
■ Main Menu- EXIT

- Closes menu.
- Press the NEAR/FAR button to close menu.



ZONE LABEL

User can edit explanation or condition of camera, and this will be displayed on the lower left screen.



1. You can choose up to 84 symbols from the available symbols table.

0	1	2	3	4	5	6	7	В	9	A	в	C	D	E	F	G
Н	1	J	К	L	М	N	0	Ρ	a	П	S	T	IJ	٧	W	Х
Υ	Z	a	ь	C	d	е	1	g	h		1	k	1	m	n	0
р	q	1	s	t	U	٧	W	х	У	z	~	[#	×	-	+
1	:	;	?	-	-	_	()	å	%	*	*	>	+		NU

- Select the location of letters using the TELE/WIDE button.A downward arrow will blink on top of the letter to edit.
- 3. Select letters using the NEAR/FAR button.
- 4. To exit, press the MENU.

Caution) III: denotes a blank letter and will be displayed as a blank space on the actual screen.

. Communication Protocol

- PELCO "D" Byte Formait-RS-485,2400bps,1 Start hit,8 data bits,1 stop hit,no parity
- Command Message

Eurobian	_	_		Inner Tel		_	_
Function .				oom Tele			_
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MSG	0xFT	CamiD	0x00	Ωx20	0x00	0x00	Checksum
Function			Z	eom Wid	e		
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MSG	OxFF	CamiD	0x00	0x40	0x00	OxOO	Checksum
Function			F	ocus Neu	W.		_
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MSG	OXFF	CamiO	0x01	00x0	Ωx0Ω	0x00	Checksum,
Function				Fecus Fai			
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MSG	OxFF	CamiD	0x00	0x80	0x00	0x00	Checksum
Function			Mi	anu On / i	DH		
	BYTE 1	BYTE 2	8Y7E 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
Mag	OxFF	CamiD	0z40	0x00	0×00	0x00	Checksum
Function			-	Power Ox			
	BYTE 1	BYTE 2	BYTE3	BYTE 4	BYTE 5	BYTE 6	BYT€ 7
M8G	0xFF	CamilD	0x88	0x00	0x00	0x00	Checksum
Function				Power Of			
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MSG	OxFF	CamiD	80x0	0x00	0x00	0x00	Checksum
Function			Pt	ileo D Sk	ip .		
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MBG	Duff	CamiD	00:00	0:00	Don't	care	Checksam

Pelco Keyboard (95 + PATTERN)

Function	Menu On / Off						
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MSG	OxFF	CamiD	0:00	0x23	0:00	OKŚF	Checksum

V/D Keyboard (Set Preset + 98)

Function		Menu On / Off					
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MS6	Out:	CarelD	0::00	0x03	0000	0x62	Checksum

10. Specficications

Signal System	NTSC	PAL			
Scanning System	2:1in	terlace			
Horizontal Scanning Frequency	15.734 kHz	15.625kHz			
Vertical Scanning Frequency	59.94 Hz	50 Hz			
Pick-up Device	1/4 Inch SONY Super H	AD CCD / EX-View CCD			
Total Pixels	811(H) x 508(V) 410K	795(H) x 596(V) 470K			
Effective Pixels	768(H) # 494(V) 380K	752(H) x 582(V) 440K			
Horizontal Resolution	480 TV lines				
S/N Ratio	More than 48dB (AGC off)				
Lens	30x Zoom Video AF				
	(F1.6(W), F3.2(T) 1	f = 3.3~99.0mm)			
Angle of View (HOR)	58.0° ~ 2.22°				
Minimum Illumination	1 Lux (Color) , 0.001 Lux (DSS 128 FLD)				
(F1.2, 30IRE)	O Lux (IR LED On)				
Synchronization	Internal				
Signal Output	1Vp-p Composite Output with 75Ω Terminated				
Operating Temperature	-10°C ~ +45°C / -30°C ~ +50°C (with Fan & Heater)				
Storage Temperature	-20°C~+65°C				
Power Consumption	DC 12V (DC 9V~15V), Max. 30W				
Dimensions (WxHxD)	272.1 x 220.2 x 356.5 mm				
Weight	Арргох 3.2kg				



Weather Proof Day&Night Color Camera

Built-in Vari-focal Lens with DAY & NIGHT and IR LEDs

Vari-focal

Indoor & Outdoor COLOR VIDEO CAMERA



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Safety

The camera should be operated only from the type of power source indicated on the marking label. Do not disassemble the camera.

Do not allow anything to get inside the camera.

Do not drop the camera.

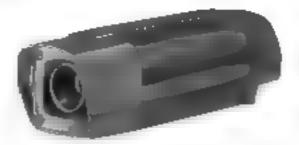
Installation

Camera should be only operated within operating temperature range.

Avoid installing the camera in the location as like; Dusty/ Vibrating/ Strong magnetic and radio frequency.

2. Composition - IR Illuminator Type

1. Weather Proof Camera



2. Sunvisor



3. Bracket Ass'y



4. Owner's Manual



5. AC Adaptor



DC 12V Input Model

2. Composition - Normal LED Type

1. Weather Proof Camera



2. Sunvisor



3. Bracket



4. Owner's Manual



5. AC Adaptor



* DC 12V Input Model

. Features

- 1. Weather-proof camera housing
- 2. Built-in Vari-local auto iris lens for easy set up
- New mechanical Day & Night function;
 Color in day, B&W at night for 24-hour monitoring
- Super High Resolution
 Horizontal resolution 550 TV lines.
- Digital Zoom Function 2x magnified power.
- 6. SDNR (Super Digital Noise Reduction)
 - Reduces the amount of tow illuminance noise significantly.
 - Get more clear & exact image at a gloomy place
- 7. BLC / Flickerless control

On / Off selectable by DIP switches.

B. Fan / Heater

According to the internal temperature of the main body,

- Fan ON : over 45°C

Heater ON : under 10°C

9. Built-in IR LEDs / IR Illuminator

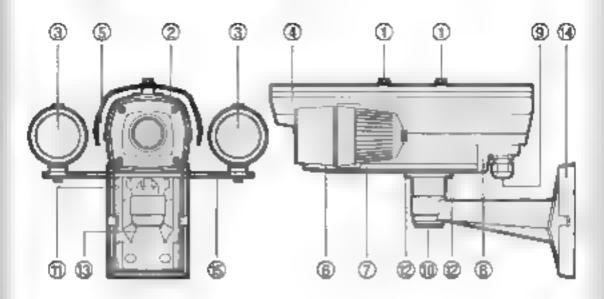
IR LEDs or IR Illuminator enable you to see any object under total darkness.

- IR Illuminator type model uses two IR illuminators.
 (IR LED: Total 126EA).
- Normal LED type model uses built-in III. LEDs. (IR LED: Total 34EA)

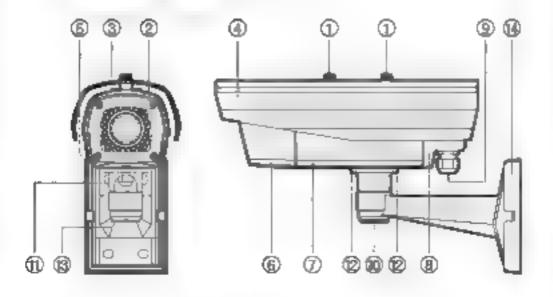
Varifocal

Name and Function of Each Parts

. IR Illuminator Type 🥏



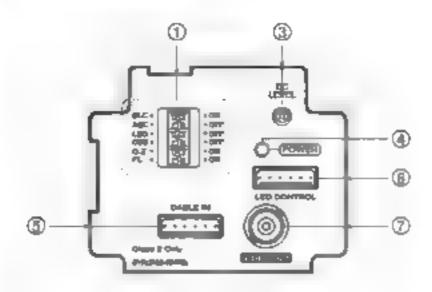
Normal LED Type 🏻 🥥



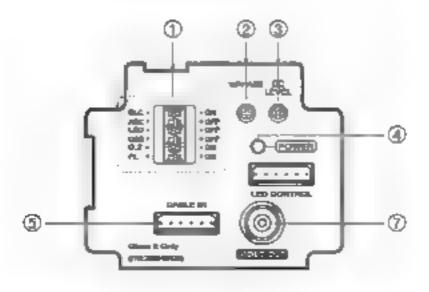
- Tixing Bolt for Survisor
 You can unfasten the bolt in order to fix mounting bracket above.
- Photo Sensor
- (3) IR Illuminator / IR LED (Infrared LED) Automatically controlled according to light condition.
- Sunvisor
 To reduce direct sunlight and protect the camera unit from rain or snow outdoor.
- Fixed Screws (front- 4EA & rear- 4EA)

 Remove the front & rear body from the main body unscrews the four(total eight) fixed screws.
- **6** Front Body
- Main Body
- @ Rear Body
- Power & Yideo Output Jack
- Mounting Bracket Fixing Bolt
 Fix the camera main body to bracket by wrench bolt.
- **®** Base Adapter
- **Base Adapter Fixing Bolt**
- (3) Wall Mount Bracket
- **(★)** Bracket Supporter
- (5) IR Illuminator Supporter

. DC 12V Input Model



. AC 24V DC 12V Input Model 🔾



(1) Function Selection Switch

■ BLC (Back Light Compensation)

This feature would be useful when camera is facing an object that has excessive light behind it. BLC prevents the center of object from too much darkness. E.g.: Video camera in the store facing the entrance doors.

BLC+ ABC+ OFF FLED+ OFF FLA

AGC (Automatic Gain Control)

With AGC ON, the setting, camera's sensitivity is automatically increased when the level of ambient light drops. AGC function automatically controls signal gain in the range of maximum 28dB.



LED

This camera can switch to the COLOR mode to support the best color image in the day time and switch to the B/W mode for the clear image in the night time.

#4.0 - A90 - OFF -

D88 (Digital Slow Stutter)

This camera can detect automatically darkness or night and support it to take a clear and bright image. As the grade of darkness, this camera can accumulate up to 32 fields.



D-ZOOM (Digital Zoom)

This camera can magnify its image in a distance. On the mode of D-ZÖOM, it magnifies twice (x2) than the real image.



■ FL (Flickerless)

If the camera is used with 50Hz fluorescent lighting, there maybe ficker on the screen, in this case, FL switch should be set to ON position. But, FL switch should be set to OFF position if 60Hz power source is used.



② Y.PHASE Adjustment V.R (AC 24V / OC 12V Input Model) If the camera is to be used in LineLock mode, the vertical phase may require adjustment to synchronize the vertical phase of the camera with other camera in the system. Make this adjustment when the vertical phase of the camera does not match with other cameras or systems. For correct adjustment,

use a multi-channel oscilloscope. The V.PHASE adjustment can be readjusted.

3 ELC / DC LEVEL Adjustment V.R.
Used to adjust video output level of DC driven auto iris lens or ELC mode.

When the brightness control **III** the monitor does not operate correctly.

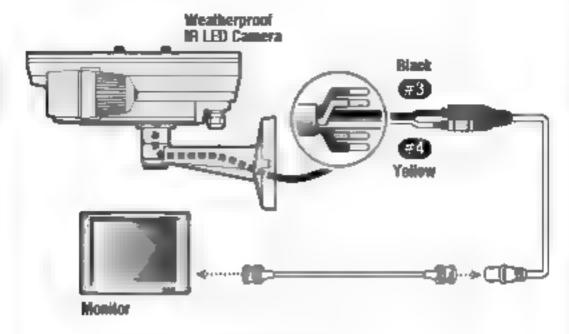
Power Indicate LED

- (6) Cable (Power In / Video Out) Connector
- (illuminator Control Connector (IR Municator Type Only)
- VIDEO OUT Jack: Video signal output 75ohms 1Vp-p composite signal.

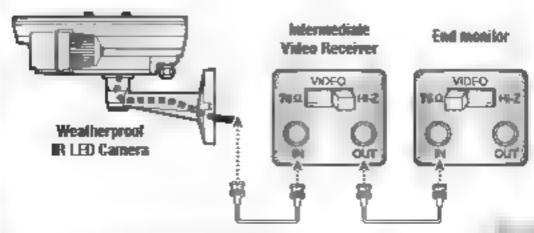


1. Connecting to Monitor

Cable the VIDEO out III the monitor video in jack.



- As the connecting method varies with the instruments, refer to the manual supplied with the instrument.
- Connect the cable after power is turned off.
- Set the 75Ω/ Hi-Z selection switch as shown below if you have an intermediate device.



2. Connecting to Power Supply



. DC 12V Input Model

- The wire in non-polarized.
- Use AC 24V

 ¬ power source or DC 12V
 ¬ power source.

No.	Line Color	Function
#1	RED	DC12V
#2	ORANGE	GND
#3	BLACK	GND(VIDEO)
44	YELLOW	VIDEO OUT
#6	GREEN	Not Used
#6	BROWN	Not Used

AC 24V / DC 12V Input Model 🔾

- The wire is polarized.
- Use DC 12V --- power source.
- Note: Make sure you are using olny the supplied AC adapter.

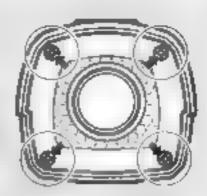
No.	Line Color	Function
#1	RED	DC12V/AC24V(H)
#2	ORANGE	GND/AC24V(N)
#3	BLACK	GND(VIDEO)
#4	YELLOW	VIDEO OUT
#5	GREEN	Not Used
#5	BROWN	Not Used

3. Zoom and Focus Adjustment

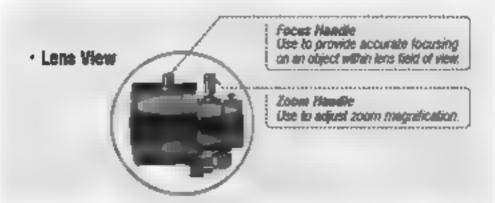
 Remove the front body from the main body unscrews the four fixed screws.

Weather Proof Camera





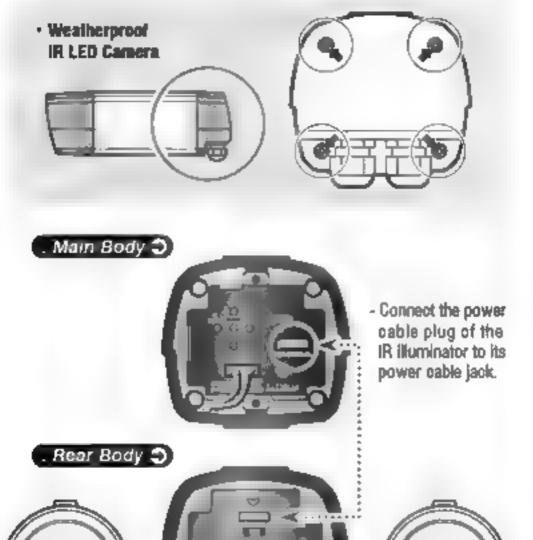
- Unlook the zoom(or the focus) handle to release it.
- Adjusting the zoom(or the focus) handle by moving it to Wide(Near) or Tele(Far) position.



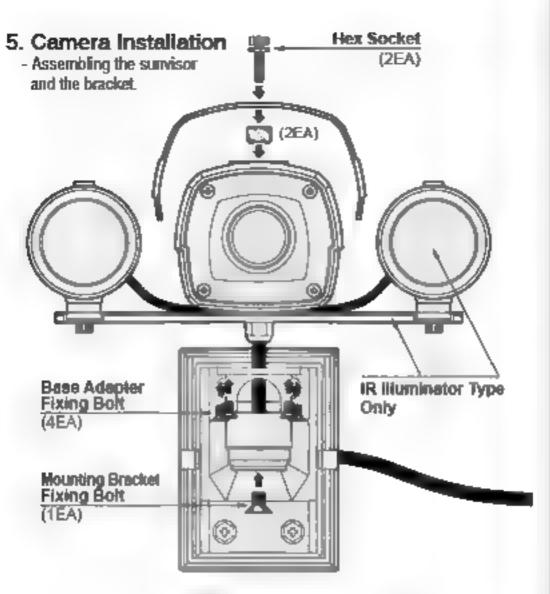
- After adjustment, tighten the zoom(or focus) handle, taking care that the adjusted position does not change.
- After adjusting zoom and focus the varifocal lens, reinstall the front body and main body by screw the four fixed screws.

4. Connecting to IR Illuminator (IR Illuminator Type Only)

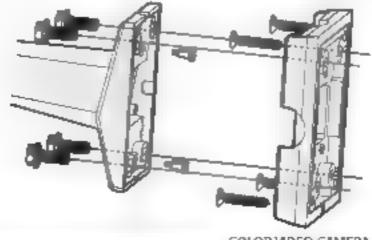
 Remove the rear body from the main body unscrews the four fixed screws.



 Connect the control cable plug of the IR illuminator to its control jack.



- Assembling the bracket supporter



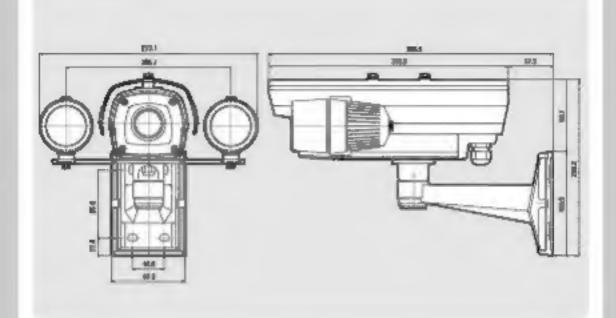
6. Specifications - IR Illuminator Type

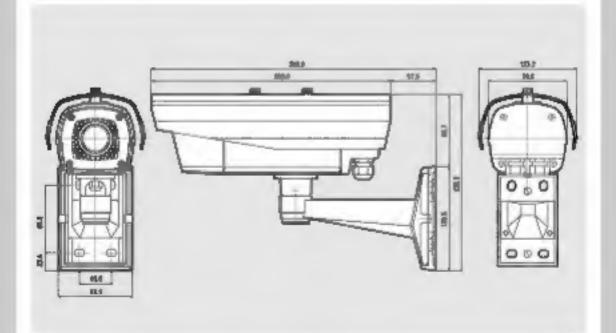
Model	Super High	Resolution			
Signal System	NTSC	PAL			
Pick-up Device	2:1 Interalce Transfer 1/3 Inch Super HAD CCD				
Effective Pixels	768(H) x 494(V)	752(H) x 582(V)			
Video Output	Composite: 1	.0V p-p, 75Ω			
Sync. System	Interna	l Sync			
Luminance S/N Rutio	More than 50	dB (AGC OFF)			
Resolution	550 T	V fines			
Sensitivity (F1.2)	0.3 Lux(Color), 0.008 Lux(DS	S 32 FLD), O LUK(TR LED ON)			
Lens	DC iris Vari-focal Lens (f=7.5~50mm F1.3)				
Electronic Shutter	1/60 ~ 120,000 Sec.	1/50 ~ 120,000 Sec.			
White Balance	AWB				
Auto Gain Control	On / Off Selectable				
Back Light Compensation	On / Off Selectable				
Day & Night	On / Off Selectable				
Flickerless	On / Off Selectable				
IR LED & Sensor	IR LED 126EA (850nm 15*), Sensor 1EA				
Digital Slow Shutter	Max. 32 FLD (On/Off)				
D-200M	2 x (Or/Off)				
Digital Noise Reduction	Auto				
Operating Temperature	-1010~+4510 / -3010~+5010 (with Fan & Heater)				
Storage Temperature	-20°C~+65°C				
Power	DC 12V (9.6V ~ 13.2V)				
Consumption	Made 30W				
Dimensions (Wbd/bdD)	272.1 x 220.2 x 356.5 mm				
Weight	Арриск	3.2kg			

6. Specifications - Normal LED Type

Model	Super Hig	h Resolution			
Signal System	NTSC	PAL			
Pick-up Device	2.1 Interaice Transfer 1/3 Inch Super HAD CCD				
Effective Pixels	768(H) x 494(V)	752(H) x 582(V)			
Video Output	Composite:	1.0V p-p, 75Ω			
Sync. System	Internal/ Line-loc	ck (Auto detection)			
Luminance S/N Ratio	More than 50	DdB (AGC OFF)			
Resolution	550	TV lines			
Sensitivity (F1.2)	0.3 Lux(Color), 0.008 Lux(D	SS 32 PLO), O Lux(IR LED ON)			
Lens	Iris Vari-focal Lens	s (f=3.8~9.5mm F1.2)			
Bectronic Shutter	1/60 ~ 120,000 Sec.	1/50 ~ 120,000 Sec.			
White Balance	AWB				
Auto Gain Control	On / Off Selectable				
Back Light Compensation	On / Off Selectable				
Day & Night	On / Off Selectable				
Flickerless	On / Off	On / Off Selectable			
IR LED & Sensor	IR LED 34EA (850nm 15°, 30° mbad), Sensor 1EA				
Digital Slow Shutter	Max. 32 FLD (On/Off)				
D-ZOOM	2 x {	On/Off)			
Digital Noise Reduction	A	uto			
Operating Temperature	-1010~+4510/-3010~	+50°0 (with Fan & Heater)			
Storage Temperature	-20°D-+65°D				
Power	AC 24V (20V-28V) or DC 12V (11V-15V)				
Consumption	Max. 20W (AC 24V) / 15W (DC 12V)				
Dimensions (WxHxD)	123.2 x 220	.2 x 356.5 mm			
Weight	Арргоз	r. 2.46kg			

7. Dimensions (mm)



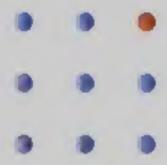


Memo



Weatherproof IR LED Day & Night Color Camera

. Day & Night IR Camera Series



P/N: 3810-0099A (Ver.0702E)

Color Video Camera Series

Design and specifications are subject to change without notice.

